

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

1-17-2002

OFFICE OF  
PREVENTION PESTICIDES AND  
TOXIC SUBSTANCES

MEMORANDUM

DATE: 17-JAN-2002

SUBJECT: ID#: 000241-00392. **Evaluation of Residue Chemistry Data to Support Nonfood Use Classification of Chlorfenapyr in Food-Handling Establishments.** MRID# 448441-01. Chemical 129093. Barcode 276749. Case 061931. Submission S601249.

FROM: George F. Kramer, Ph.D., Chemist   
Registration Action Branch 1 (RAB 1)  
Health Effects Division (HED) (7509C)

THRU: G. Jeffrey Herndon, Branch Senior Scientist   
RAB1/HED (7509C)

TO: Arnold Layne/Ann Sibold, PM team 3  
Registration Division (RD) (7505C)

BASF Corporation (formerly American Cyanamid Company) has submitted a revised Section 3 application for the registration of a 2 lb/gal soluble concentrate (SC) formulation of chlorfenapyr (product name = Phantom termiticide-insecticide; EPA File Symbol No. 241-GOE) for indoor and domestic outdoor uses. The proposed indoor uses include applications to food-handling establishments. In support of the proposed indoor use, the petitioner has submitted a study depicting residues resulting from the use of chlorfenapyr in food-handling establishments (1999; MRID 44844101) which is reviewed herein. Based on these data, the registrant is requesting an exemption from a food-handling establishment tolerance.

The attached contractor's document has been reviewed and revised to reflect current HED policy.

Executive Summary of Chemistry Deficiencies

- Revise label to specify a minimum retreatment interval (RTI) of 24 hours or greater.
- Submission of Section F.

CONCLUSIONS/RECOMMENDATIONS

HED concludes that the proposed use of chlorfenapyr in food-handling areas is a food use requiring the establishment of a tolerance. The registrant should address the deficiency pertaining to the proposed use (Conclusion 2) and propose a tolerance for residues of chlorfenapyr in/on all food commodities exposed to the insecticide during treatment of food/feed-handling areas (Conclusion 7c).

Note: The proposed use could be rendered a nonfood use if the registrant is willing to amend the product label to clearly limit use to nonfood areas of food-handling establishments such as lavatories, sewer drains, boiler rooms, etc.

Attachment - contractor review

cc: Kramer  
RDI: G. Herndon (1/17/02), RAB1 Chemists (1/17/02)  
G.F. Kramer:806T:CM#2:(703)305-5079:7509C:RAB1

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CHLORFENAPYR  
PC Code 129093  
(DP Barcode D276749)

Evaluation of Residue Chemistry Data to Support  
Nonfood Use Classification of Chlorfenapyr in  
Food-Handling Establishments

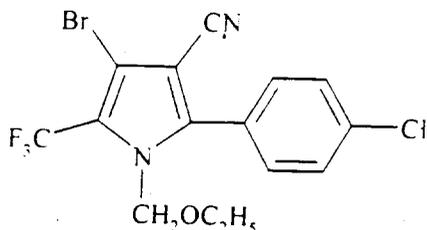
November 30, 2001

Contract No. 68-W-99-053

Submitted to:  
U.S. Environmental Protection Agency  
Arlington, VA

Submitted by:  
Dynamac Corporation  
20440 Century Boulevard, Suite 100  
Germantown, MD 20874

# CHLORFENAPYR



## EVALUATION OF RESIDUE CHEMISTRY DATA TO SUPPORT NONFOOD USE CLASSIFICATION OF CHLORFENAPYR IN FOOD-HANDLING ESTABLISHMENTS

PC Code 129093

(DP BARCODE D276749)

### INTRODUCTION

BASF Corporation (formerly American Cyanamid Company) has submitted a revised Section 3 application for the registration of a 2 lb/gal SC formulation of chlorfenapyr (product name = Phantom termiticide-insecticide; EPA File Symbol No. 241-GOE) for indoor and domestic outdoor uses. The proposed indoor uses include applications to food-handling establishments. In support of the proposed indoor use, the petitioner has submitted a study depicting residues resulting from the use of chlorfenapyr in food-handling establishments (1999; MRID 44844101) which is reviewed herein. Based on these data, the registrant is requesting an exemption from a food-handling establishment tolerance. Data pertaining to indoor air concentrations of chlorfenapyr resulting from post construction application of the 2 lb/gal SC formulation for control of subterranean termite species (1999; MRID 45137301) were also submitted; these data are being reviewed under separate cover (DP Barcode D266948).

In support of the current action, the petitioner has referenced data previously submitted for the registration of another 2 lb/gal SC formulation (Pylon miticide-insecticide; EPA Reg. No. 241-374) and the 96.2% technical product (Product name = Chlorfenapyr Technical insecticide; EPA Reg. No. 241-366). The petitioner has requested that the data reviewed herein pertaining to use in food-handling establishments be bridged to support the registered 2 lb/gal SC formulation.

Time-limited tolerances (in conjunction with a Section 18 registration on cotton) with an expiration date of 1/31/01 were previously established for residues of chlorfenapyr [4-bromo-2-(4-chlorophenyl)-1-(ethoxymethyl)-5-(trifluoromethyl)-1H-pyrrole-3-carbonitrile] in/on: cottonseed (0.5 ppm), cotton gin

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byproducts (2.0 ppm), milk (0.01 ppm), milk fat (0.15 ppm), and the fat (0.10 ppm), mbyp (0.3 ppm), and meat (0.01 ppm) of cattle, goat, hogs, horses, and sheep [40 CFR §180.513(b)].

## CONCLUSIONS

### OPPTS 830 Series GLNs: Product Properties

1. Adequate product chemistry data for the technical grade of the active ingredient (TGAI) are available. No additional product chemistry data are required for this Section 3 request.

### OPPTS GLN 860.1200: Proposed Uses

2. The proposed use directions for the 2 lb/gal SC formulation (EPA File Symbol No. 241-GOE) are adequate to allow HED an assessment of whether the submitted residue data reflect the maximum residues likely to result from application in food-handling establishments; however, the use directions must be revised to specify a minimum RTI of 24 hours or greater.

### OPPTS GLN 860.1300: Nature of the Residue in Plants and Livestock

3. The nature of the residue in plants and livestock is adequately understood based on acceptable metabolism studies conducted on cotton, citrus, lettuce, potato, and tomato, and on ruminants and poultry. The HED Metabolism Committee determined that the terminal residue of concern in plant and livestock commodities is chlorfenapyr *per se*, which is the regulated residue in 40 CFR §180.513.

### OPPTS GLN 860.1340: Residue Analytical Method

- 4a. Samples of composited meals from the subject study were analyzed for residues of chlorfenapyr using American Cyanamid GC/ECD Method M 2398. This method, which was previously submitted as an enforcement method for analysis of ruminant muscle and fat, has undergone a successful petition method validation (PMV) by the Analytical Chemistry Laboratory (ACL). The reported limit of quantitation (LOQ) is 0.01 ppm. The submitted concurrent recovery data indicate that GC/ECD Method M 2398 is adequate for determining residues of chlorfenapyr *per se* in/on composited meal samples.

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OPPTS 860.1360: Multiresidue Method

5. The data requirement for multiresidue methods has been satisfied pending FDA review and acceptance of the multiresidue methods.

OPPTS GLN 860.1380: Storage Stability Data

6. Because samples of composite meals from the food-handling study were analyzed within 37 days of sample collection, no storage stability data are required to support the food-handling study.

OPPTS GLN 860.1460: Food Handling

- 7a. The submitted food-handling study is adequate. Residues of chlorfenapyr were less than the LOQ (<0.01 ppm) in/on covered and uncovered composite meals following application of a 25% wettable powder formulation on two consecutive days at the maximum proposed use rate of 0.5% in 1 gallon of spray suspension/1000 ft<sup>2</sup>. Applications included crack and crevice and spot treatment to all areas of the kitchen and storage room of a restaurant to simulate commercial applications for cockroach control. Application areas included but were not limited to: underneath cabinets and overhead storage bins, around conduits and pipes, behind loose baseboards and molding strips, on the under sides of tables and around sinks, and in the open spaces above the drop ceiling.
- 7b. Although the petitioner indicated that the proposed use constituted a nonfood use because there is no reasonable expectation that finite residues will result in food items following crack and crevice or spot applications, HED's Chemistry Science Advisory Council (ChemSAC) has determined in the past that such uses are considered food uses because food may be present, albeit covered, during applications.
- 7c. Based on the submitted data, a tolerance must be proposed under 40 CFR 180.513(a)(2) (where 180.513(a)(1) is reserved for general tolerances) as follows:
- (2) A tolerance of 0.01 ppm for residues of the insecticide/acaricide chlorfenapyr in or on all food commodities (other than those covered by a higher tolerance as a result of use on growing crops) exposed to the insecticide during treatment of food/feed-handling areas where food/feed products are prepared, held, processed, or served. Applications shall be limited to crack and crevice or spot treatments.
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(i) Crack and crevice or spot treatments shall be limited to a maximum of 0.5 percent of the active ingredient weight, applied with a low-pressure system with a straw tip or pin tip nozzle. Cover exposed food or removed food from premises. Do not apply directly to food.

(ii) To ensure safe use of the insecticide, its label and labeling shall conform to that registered by EPA, and it shall be used in accordance with such label and labeling.

7d. As the petitioner requested, these data may be bridged to support the registered 2 lb/gal SC formulation (Pylon miticide-insecticide; EPA Reg. No. 241-374).

OPPTS GLN 860.1480: Meat, Milk, Poultry, Eggs

8. Data depicting magnitude of residues in livestock commodities are not pertinent to this Section 3 request.

OPPTS GLN 860.1850/1900: Confined/Field Accumulation in Rotational Crops

9. Rotational crop data are not pertinent to this Section 3 request.

#### RECOMMENDATIONS

HED concludes that the proposed use of chlorfenapyr in food-handling areas is a food use requiring the establishment of a tolerance. The registrant should address the deficiency pertaining to the proposed use (Conclusion 2) and propose a tolerance for residues of chlorfenapyr in/on all food commodities exposed to the insecticide during treatment of food/feed-handling areas (Conclusion 7c).

Note: The proposed use could be rendered a nonfood use if the registrant is willing to amend the product label to clearly limit use to nonfood areas of food-handling establishments such as lavatories, sewer drains, boiler rooms, etc.

#### DETAILED CONSIDERATIONS

OPPTS 830 Series GLNs: Product Properties

Product chemistry data were previously submitted and reviewed in conjunction with a petition for use of chlorfenapyr on cotton (PP#5F4456; DP Barcode D229319, 10/21/96, G. Otakie; and DP

Barcode D211889, 2/6/96, G. Otakie). No additional product chemistry data are required in support of this Section 3 request.

**OPPTS GLN 860.1200: Proposed Uses**

The petitioner provided an amended specimen label for a 2 lb/gal (21.44%) SC formulation (Phantom termiticide-insecticide; EPA File Symbol No. 241-GOE) which is proposed for subterranean termite control in existing structures and post-construction, and for general pest control as a crack and crevice spray and spot treatment. Only the general pest control use pattern is relevant to the current petition.

For general pest control, use of the 2 lb/gal SC formulation is permitted but not limited to areas in and around houses, apartments or other residential structures, and the food/feed and non-food/feed-handling areas of commercial, institutional, and warehousing establishments, such as schools, groceries and supermarkets, restaurants and cafeterias, hotels and motels, hospitals and nursing homes, warehouses and industrial buildings, laboratories, zoos, pet shops, computer facilities and sewers. Food/feed product areas are defined as food/feed processing plants, restaurants or other areas where food/feed is commercially prepared, held, processed or served.

The 2 lb/gal SC formulation is to be prepared as a 0.10%, 0.25%, or 0.50% dilution and applied as crack and crevice and limited spot applications using low-pressure directed spray application equipment to food-handling areas in operation (processing, canning, storage, or serving) but not where food is directly exposed to the spray; any open food items are to be covered or removed from the area to be treated prior to application. Treatment may be repeated as necessary to maintain adequate control. General surface or space applications are prohibited. Any food-handling equipment or surface areas that are exposed during a spot application are to be cleaned with soap and rinsed with fresh water. Contact to treated areas is not allowed until spray has dried, and items are not to be replaced on treated surfaces until spray has dried. Pyrethrin/pyrethroid products may be added to the spray mixture for "knockdown" or "flushing action" effects.

HED notes that the petitioner included an annotated copy of the label for the 2 lb/gal SC formulation which had previously been submitted to the Agency. Agricultural and non-agricultural use requirements and directions for general pest control outdoors which had previously been listed on the label have been removed with the current submission. The petitioner noted that the label amendments included the addition of mandatory First Aid language and pertinent changes requested during the review of labels

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submitted in support of an Experimental Use Permit for the product 241-EUP-141.

### Conclusion

The proposed use directions for the 2 lb/gal SC formulation (EPA File Symbol No. 241-GOE) are adequate to allow HED an assessment of whether the submitted residue data reflect the maximum residues likely to result from application in food-handling establishments; however, the use directions must be revised to specify a minimum RTI of 24 hours or greater.

### OPPTS GLN 860.1300: Nature of the Residue in Plants and Livestock

The nature of the residue in plants and livestock is adequately understood based on acceptable metabolism studies conducted on cotton, citrus, lettuce, potato, and tomato, and on ruminants and poultry (PP#3G4224, DP Barcodes D192275, D193607, and D193607, 5/20/93, G. Otakie; PP#5G4507, DP Barcodes D215017 and D216197, 8/8/95, G. Kramer; PP#5G4523, DP Barcodes D215977 and D217117, 3/21/96, G. Otakie; and PP#5G04574, DP Barcode D218766, 2/1/96, G. Kramer). The HED Metabolism Committee (DP Barcode D227383, 6/25/96, G. Otakie) has determined that the terminal residue of concern in plant and livestock commodities is chlorfenapyr per se which is the regulated residue in 40 CFR §180.513.

### OPPTS GLN 860.1340: Residue Analytical Method

Samples of composited meals from the submitted food-handling study were analyzed for residues of chlorfenapyr by Maxim Technologies, Inc. (Middleport, NY). Residues were determined using American Cyanamid GC/ECD Method M 2398 entitled "CL 303630: GC Determination and GC/MS Confirmatory Method for CL 303630 Residues in Cattle Muscle and Fat." This method was previously submitted as a tolerance enforcement method for ruminant muscle and fat, and has undergone a successful PMV by the ACL (DP Barcode D223803, 5/9/96, G. Otakie). The reported LOQ is 0.01 ppm.

Two separate concurrent method validations were conducted in conjunction with the food-handling study. At the restaurant, a field fortification experiment was conducted in which one complete untreated meal was blended to a uniform mixture and subsamples were fortified at 3x the LOQ and 30x the LOQ with chlorfenapyr. One set of spiked samples was frozen immediately after spiking ("unweathered"), and a second set was left open in the seating area of the restaurant, which was not treated, for 12 hours. This interval was the maximum length of exposure for

samples in the study. After 12 hours, the "weathered" recovery samples were placed in frozen storage. A second concurrent method validation was conducted at Maxim in which samples were fortified the LOQ, 3x the LOQ, and 30x the LOQ. The results of the concurrent method validations are presented in Table 1. Representative chromatograms were submitted.

Table 1. Concurrent method recoveries of chlorfenapyr from fortified untreated samples of covered and uncovered composite meals.

Substrate *	Fortification Levels, ppm	% Recovery *	Mean ± s.d.
Field fortifications			
Unweathered composite meal	0.030, 0.300	78-83 (6)	81 ± 2
Weathered composite meal	0.030, 0.300	81-91 (6)	84 ± 4
Laboratory fortifications			
Composite meal	0.010, 0.030, 0.300	74-99 (11)	83 ± 7

Unweathered samples were placed in frozen storage immediately after fortification; weathered samples were placed in frozen storage 12 hours after fortification.

\* Number of samples is noted in parentheses.

Comments: The submitted concurrent recovery data indicate that GC/ECD Method M 2398 is adequate for determining residues of chlorfenapyr per se in/on composited meal samples.

**OPPTS 860.1360: Multiresidue Method**

The data requirement for multiresidue methods is satisfied pending FDA review and acceptance of the multiresidue methods (D211889, 1/31/96, G. Otakie). The petitioner previously submitted multiresidue method recovery data for chlorfenapyr through FDA Protocols A through E. Protocols A and B were not applicable to chlorfenapyr. In Protocol C, chlorfenapyr gave a good response and a good peak with the electron capture detector on three different GC columns. In Protocol D, using pears as a nonfatty food representative, the 5% OV-101 column gave the greatest sensitivity at 0.05 and 0.50 ppm. In Protocol E, chlorfenapyr eluted well on Florisil in both the ethyl ether/petroleum ether system and the alternate hexane/acetonitrile/methylene chloride system and gave acceptable recovery.

**OPPTS GLN 860.1380: Storage Stability Data**

Sample storage conditions and intervals

Samples of individual meals collected following application of chlorfenapyr to the kitchen and storage area of the restaurant were placed into freezer storage within one hour of sampling, except for meals collected 12 hours after the second application, which were placed in coolers with dry ice immediately after collection and were transferred to the freezer within 13 hours of sampling. Freezer storage temperatures ranged from -74 to -3 C. Frozen meal samples were delivered to ACCO (Princeton, NJ) for sample preparation via freezer truck within 3 days of sample collection. At ACCO, samples were stored at ≤10 C prior to homogenization in the presence of dry ice using a food chopper. Homogenized meal samples were stored in the freezer until they were shipped via FedEx on dry ice to Maxim Technologies, Inc (Middleport, NY) 9-10 days after sampling for sample analysis. At Maxim, samples were stored at -15 C prior to analysis. All samples were analyzed within 37 days of sample collection.

Comments: Because samples of composite meals were analyzed within 37 days of sample collection, no storage stability data are required to support the food-handling study.

**OPPTS GLN.860.1460: Food Handling**

BASF submitted data (citation listed below) depicting the magnitude of chlorfenapyr residues resulting from application in a food-handling establishment to support a revised application request for nonfood indoor use of chlorfenapyr.

44844101 Lennon, G. (1999) CL 303630 (Chlorfenapyr): Determination of Chlorfenapyr Residues in Typical Foods Exposed after Multiple Applications of AC 303630 25 WP Termiticide-Insecticide Applied as a Crack and Crevice Treatment and a Spot Treatment in a Food Service Establishment. Lab Project ID: RES 99-010. Unpublished study prepared by American Cyanamid Company. 90 p.

The study was conducted in 1998 in the food preparation and handling area (kitchen) and open storage room of a restaurant that was not in operation at that time. Although the restaurant was not in operation, the food preparation and storage equipment was in place. Chlorfenapyr was formulated as a 25% wettable powder formulation and applied using a commercial compressed air sprayer equipped with a straw tip for crack and crevice treatment and a pin tip for spot treatment. Applications were made on two consecutive days at the maximum proposed use rate of 0.5% in 1 gallon of spray suspension/1000 ft<sup>2</sup>. Applications were made to

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all areas of the kitchen and storage room to simulate commercial applications for cockroach control. Application areas included, but were not limited to: underneath cabinets and overhead storage bins, around conduits and pipes, behind loose baseboards and molding strips, on the under sides of tables and around sinks, and in the open spaces above the drop ceiling. Working surfaces of counters, shelves, and appliances, and floor drains were not treated. Ventilation fans were in operation as they would have been during normal working conditions. The temperature and relative humidity of the food preparation and handling room were monitored to show that these were the same as they would be in a normal operating kitchen. The petitioner noted that the use of a WP formulation instead of an SC formulation would be likely to result in exaggerated exposure to food items because the WP formulation would have larger particle size and would thus be more easily dispersed. Likewise, the petitioner noted that the application timing was highly exaggerated, stating that reapplication would typically occur 7 or more days after the first application.

Food items including all-purpose flour (2 oz.), white bread (1 slice), meat/ground beef (4 oz.), lemon drop candy (1 oz.), butter (1 tablespoon), banana cream pie (1/8 of a 9" pie), shredded head lettuce (1 cup), and whole milk (1 cup) were arranged on aluminum trays to represent typical meals. During each application, 16 composite meals (8 covered and 8 uncovered) were arranged on tables placed in the middle of the kitchen; the tables were not part of the application area. Covered meals were placed in plastic bags and sealed, then covered with two layers of aluminum foil before applications were made; uncovered meals remained exposed during and after the applications. After each application, one covered and one uncovered sample was removed from each table 1, 4, 8, and 12 hours after treatment, placed in plastic bag and transferred to a chest freezer. Frozen meal samples were transferred to ACCO (Princeton, NJ) for sample preparation within 3 days of sample collection, where they were homogenized in the presence of dry ice using a food chopper. Homogenized meal samples were stored in the freezer until they were shipped via FedEx on dry ice to Maxim Technologies, Inc (Middleport, NY) for sample analysis (refer to OPPTS GLN 860.1380: Storage Stability Data for details of sample storage and handling).

Samples were analyzed for residues of chlorfenapyr by GC/ECD method M 2398 (discussed above under OPPTS GLN 860.1340: Residue Analytical Methods). The reported LOQ was 0.01 ppm. Residues were less than the LOQ (<0.01 ppm) in/on two samples each of covered and uncovered composited meal samples collected 1, 4, 8, and 12 hours after one or two applications of chlorfenapyr at 0.5% ai/1000 ft<sup>2</sup>. Apparent residues of chlorfenapyr were less than the LOQ (<0.01 ppm) in/on four samples each of covered and

uncovered untreated composited meals (residue values of 1.44 to <1.65 ppb were reported).

Note: There is a record of a protocol review for this study (Barcode D255521, 6/4/99, G. Kramer); however, the review was issued after the study itself was received. The only change requested in the protocol review was that representative foods be analyzed individually rather than as composite meals. Because residues were less than 0.01 ppm in all food-handling samples, HED concludes that this deviation is not an issue.

Conclusions

The submitted food-handling study is adequate. Residues of chlorfenapyr were less than the LOQ (<0.01 ppm) in/on covered and uncovered composite meals following application of a 25% wetttable powder formulation on two consecutive days at the maximum proposed use rate of 0.5% in 1 gallon of spray suspension/1000 ft<sup>2</sup>. Applications included crack and crevice and spot treatment to all areas of the kitchen and storage room of a restaurant to simulate commercial applications for cockroach control. Application areas included but were not limited to: underneath cabinets and overhead storage bins, around conduits and pipes, behind loose baseboards and molding strips, on the under sides of tables and around sinks, and in the open spaces above the drop ceiling.

Although the petitioner indicated that the proposed use constituted a nonfood use because there is no reasonable expectation that finite residues will result in food items following crack and crevice or spot applications, the ChemsAC has determined in the past that such uses are food uses because food may be present, albeit covered, during applications (Minutes of 7/7/99 ChemsAC meeting, 7/21/99). The ChemsAC had noted that such use could be rendered a nonfood use by limiting application to nonfood areas of food-handling establishments, such as lavatories, sewer drains, boiler rooms, etc.

Based on the submitted data, a tolerance must be proposed under 40 CFR 180.513(a)(2) (where 180.513(a)(1) is reserved for general tolerances) as follows:

- (2) A tolerance of 0.01 ppm for residues of the insecticide/acaricide chlorfenapyr in or on all food commodities (other than those covered by a higher tolerance as a result of use on growing crops) exposed to the insecticide during treatment of food/feed-handling areas where food/feed products are prepared, held, processed, or served. Applications shall be limited to crack and crevice or spot treatments.

(i) Crack and crevice or spot treatments shall be limited to a maximum of 0.5 percent of the active ingredient weight, applied with a low-pressure system with a straw tip or pin tip nozzle. Cover exposed food or removed food from premises.

(ii) To ensure safe use of the insecticide, its label and labeling shall conform to that registered by EPA, and it shall be used in accordance with such label and labeling.

As the petitioner requested, these data may be bridged to support the registered 2 lb/gal SC formulation (Pylon miticide-insecticide; EPA Reg. No. 241-374).

**OPPTS GLN 860.1480: Meat, Milk, Poultry, Eggs**

Data depicting magnitude of residues in livestock commodities are not pertinent to this Section 3 request.

**OPPTS GLNs 860.1850/1900: Confined/Field Accumulation in Rotational Crops**

Rotational crop data are not pertinent to this Section 3 request.

**AGENCY MEMORANDA CITED IN THIS DOCUMENT**

DP Barcode: D192275 and D193607  
Subject: PP#3G4224 - New Chemical - Pirate Insecticide on Cotton. Evaluation of Product and Residue Chemistry Data.  
From: G. Otakie  
To: C. Giles-Parker/C. Lewis  
Date: 5/20/93  
MRIDs 42770201-42770206 and 42770234-42770239

DP Barcode: D215017 and D216197  
Subject: PP#5G04507. Alert in or on Oranges and Lemons. Evaluation of residue data and analytical methods. Chemical No. 129093.  
From: G. Kramer  
To: D. Edwards, M. Johnson and W. Hazel  
Date: 8/8/95  
MRIDs 43622101-43622104

DP Barcode: D211889  
 Subject: PP#5F04456 - New Chemical - Pirate/Alert® on Cotton. Evaluation of Residue Data and Analytical Methods.  
 From: G. Otakie  
 To: D. Edwards/M. Johnson and K. Whitby  
 Date: 1/31/96  
 MRIDs 43492801-43492805 and 43492851-43492861

DP Barcode: D215977 and D217117  
 Subject: PP#5G04523 and PP#5G04548 - New Chemical - Alert/Pirate (i.e. Chlorfenapyr) on Lettuce and Cabbage (also known as Pirate). Evaluation of Residue Data and Analytical Methods Field Trial and Processing Residue Data.  
 From: G. Otakie  
 To: D. Edwards/M. Johnson and K. Whitby  
 Date: 3/21/96  
 MRIDs 43638901-43638904 and 43700701-43700702

DP Barcode: D227383  
 Subject: HED Metabolism Committee Meeting of 6/20/96. New Chemical - Chlorfenapyr (i.e. Alert/Pirate®). PP#5F04456. Insecticide/Miticide on Cotton/Oranges/Lemons and Tomatoes/Lettuce/Cabbage/Potatoes.  
 From: G. Otakie  
 To: HED Metabolism Committee Members  
 Date: 6/25/96  
 MRIDs None

DP Barcode: D218766  
 Subject: PP#5G04574. Alert in or on Tomatoes. Evaluation of Residue Data and Analytical Methods. Chemical No. 129093.  
 From: G. Kramer  
 To: D. Edwards and K. Whitby  
 Date: 2/1/96  
 MRIDs 43753601-43753604

DP Barcode: D211889  
 Subject: PP#5F04456 - New Chemical - Pirate/Alert® on Cotton. Evaluation of Residue Data and Analytical Methods.  
 From: G. Otakie  
 To: D. Edwards/M. Johnson and K. Whitby  
 Date: 2/6/96  
 MRIDs: 43492801-43492805 and 43492851-43492861

DP Barcode: D223803  
Subject: PP#5F04456 - New Chemical - Alert/Pirate  
Insecticide/Miticicide on Cotton. Results of EPA  
Method Validation on Animal Commodities.  
From: G. Otakie  
To: B. Madden  
Date: 5/9/96

DP Barcode: D229319  
Subject: PP#5F04456 - New Chemical -  
Chlorfenapyr/Pirate®/Alert® on Cotton. Evaluation of  
Product and Residue Chemistry Amendments.  
From: G Otakie  
To: D. McCall  
Date: 10/21/96  
MRIDs 44084001 and 44084002